

## American Burying Beetle Science Meeting Meeting Notes,

October 23, 2014

St Louis- can provide beetles for KY reintroduction  
Howard- probs with burying behavior in their captive colony  
Anita- looking at habitat for reintro, using MO as template  
Some discussion on paperwork needed for another 10j population- amendment?

### **Lou Perrotti – Roger Williams Park Zoo and Report from New England**

*from Chris Raithe, RI DEM- June 23-26<sup>th</sup> trapping, as augmentation increases, so do beetle numbers*  
50 carcasses = 500 teners

21% is very rough overwinter survival number

Will continue provisioning, releasing, monitoring

Penikese Island, MA 1947 last known beetles, 1991-2001 persisted, pop died out in 2003

Nantucket- sp survival plan for ABB done

Captivity is easy, cheap, diet is important, especially for first 7 days, use 140g rats from mail order

Do they use miticide? **beetles won't touch freezer burned carcasses**, St Louis transfers mites in captivity. No scavenger mammals, crows main scavenger

'92-93 surveyed for beetles, found none

'94 reintro 2800 beetles released '94-2006

2 release sites, east and west

Release at sindoen, dig up and brood check at 10 days

'07-2010 no reintro, but catch and provision

'11-2014 reduced to 25 pair per provisioning (similar to Block Island), monitoring at ¼ mi increments to 3 miles

Western population persisted without provisioning for years

Marking with bee tags, notch elytra for sites

Will continue to provision to maintain population

Population estimate high of 700, 15.5% overwinter survival

Will try above-ground traps coming year

### **Bob Merz – St. Louis Zoo**

8600 beetles produced since '04, 12,451 trap nights since '02

Jun 5<sup>th</sup>, 2012 first reintro into Wahkontah, has good bird density, good soil for silphids

Plugs dug, side chamber made, plug replaced, done in evening, chicken wire placed over top for scavenger prevention

10 days (important number!) afterwards 1/3 of brood checked

Often beetles re-dig deeper if hot outside

2 reintros done this year because of big rains last year, this way not putting all of our eggs in one basket

Elytras notched for sites

Beetles provisioned and released after monitoring

Surveys resume in May, mix of pitfalls (onsite) and above-ground

Genetic project looking at how AR, NE, and Block Island pops are distinct, Lisa Royes is doing work

Brood checking does NOT seem to impact brood success

**Anita Barstow – USFWS, Tulsa**

Eastern 1/3 of OK is pop range

Thinks beetles are double-breeding in OK

Conservation priority areas are the overlap of 3 sightings

Unfavorable areas are regularly tilled, pastures with frequent mowing or spraying, urban areas or stockpiled soil, wetlands

Survey protocol is 5 consecutive nights, season begins at 60 degree nights

No longer baiting away

1.2 ac for minimal impacts removed

**Tom Ferrari – Oklahoma State University**

Seasonal dynamics of ABB, looking at competition between congeners, comparing veg diversity

3 x 18 sites

294 trap nights- 53 ABBs at one site

Only uses rats as bait, mainly forested sites

**Kyle Risser – Oklahoma State University**

Population density estimates

Do relocated beetles survive? Bee-tagged released in the morning

Answer is yes, but they may be pushing out existing beetles

Traps do NOT remove all ABBs in an area

More ABBs in grids than single traps

Is population stable at reintro sites ? ABBs seem to be leaving sites

**Dan Howard – Augustana College, SD**

Tallgrass prairie usually 500 ABBs , now 27 after cold winter

2012 changed to above ground surveys

Set up bottom collector on bucket trap, only 1 in 40 collected ABBs below buckets= above ground traps work

Bigger cover on top of trap increases ABB collection

Above ground traps exclude dung beetles and some other bugs

Many vertebrate visits to traps, but raccoons not a big threat

Feels scent is way above beetle's threshold for detection in both types of traps

Wind may be significant factor for attraction

**Carrie Hall - Augustana College, SD**

Does Remedy (triclopyr) impact *marginatus* reproduction, growth, development?

Timed beetles burying times, no difference

Number of offspring, size of offspring, no difference

Remedy reduced the time spent developing in ground, these beetles subsequently took longer to bury carcass, but no other impacts

**Wayne Walker - ABB Conservation Bank, Pittsburg County**

2 banks originally selected in OK

876 acres required for Keystone, 1600 acres is under conservation easement and 724 is the bank area

Let science guide bank site selection

Banks have economies of scale, no temporal loss

Must have 3<sup>rd</sup> party easement holder, non-wasting endowment

Doing research into carrion preference

3 types of impacts- cover change, permanent impacts, temporary impacts, these have different mitigation ratios

When bank closes, management plan must be followed, bank still liable for maintenance

Mitigation must be in service area, 500+ acres, protected in perpetuity

Bank credits can be used for multiple species, but can't double-dip?

Credits cannot be used for research

### **Discussions**

Some discussion on upper temp limit of ABB activity- Bob said no reproduction above 90 degrees

Dan may have temp/ ABB presence data

Could climate change be affecting southern ABB range?

?*Lobachia rickettsia*? Could be factor in populations not being compatible. This will be something we need to look at before moving ABBs from area to another.

SSA (recovery ) meeting in March